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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jae Beom Choi

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EXAMINER

CALLAWAY, JADE R

ART UNIT

PAPER NUMBER

2872

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/618,165	Applicant(s) CHOI ET AL.	
	Examiner JADE CALLAWAY	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15, 17-23 and 27-37 is/are pending in the application.
- 4a) Of the above claim(s) 27-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/084583.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments to the Abstract and Claims, in the submission dated 6/2/08, are acknowledged and accepted.

Response to Arguments

2. Applicant's arguments with respect to claim 13-15, 17-23 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's arguments, see page 7, filed 6/2/08, with respect to the 35 U.S.C. 112 first paragraph rejection have been fully considered and are persuasive. The 35 U.S.C. 112 first paragraph rejection of the claims has been withdrawn.

4. The Examiner notes that the Official Notice taken in Section 11 of the Office Action dated 3/4/08 (See specifically pages 4-6) has been taken to be admitted prior art since Applicants failed to seasonably traverse the assertion of Official Notice (See MPEP 2144.03).

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

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disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. Abstract, line one, delete "Disclosed is"

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota (3,912,920) in view of Melles-Griot Optics Catalog (Optics Guide 5) and Hanssen et al. (4,624,537).

Consider claim 22, Kubota discloses a polarizer structure (Fig. 2) comprising a plurality of sections such as 31 and 32, each section comprising a plurality of transparent substrates 3a made of glass and producing polarized light (Fig. 1, lines 18-29, col. 2, lines 42-51, col. 3). However, Kubota does not disclose explicitly that the transparent substrates 3a causing the polarization of the incident light are made from quartz. Kubota does teach that polarization occurs when light strikes obliquely the plane of a transparent substance such as a glass plate (lines 42-58, col. 1). Official Notice is taken. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use quartz plates instead of glass plates in the polarizer structure of Kubota, since quartz is similar to glass and it is less susceptible to external deleterious factors. Regarding the limitation that the polarizer structure comprises a

holder supporting the plurality of the polarizer sections, it is noted that it is inherent that the device of Kubota shown in Fig. 2 includes a holder to support the polarizer sheet.

Furthermore, it is inherent that the polarizer holder includes a light absorptive material, since any material, which is not a perfect reflector absorbs incident light. However, Kubota does not specify the amount of Optical absorptivity exhibited by the polarizer holder. Kubota and The Melles-Griot Optics product catalogue are related as polarizer devices. The Melles-Griot Optics product catalog (Optics Guide 5) shows polarizer elements (e.g., sheet polarizers), wherein it is disclosed that said polarizers are mounted on holders comprising black metal ring (see p. 14-23). In the special section dedicated to mounting systems, the catalog shows a lens holder made from brass, wherein it is taught that the body is black chrome coated to reduce scatter and stray reflections (see p. 23-5). For illustration purposes only, several other product publications are recited, all of them disclosing polarizer holders made of black anodized metal (see OptoSigma, Standa, and EKSPLA catalogs). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the material of the polarizer holder of Kubota have a high absorptivity (such as highly absorbing black surfaced material), as taught by the Melles-Griot catalog, for avoiding undesired scattering of light (as taught by Melles-Griot) into the (narrow-angle forward, p-polarized) light component at the output of the device. Regarding the claimed amount of absorptivity, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the material of the polarizer holder of Kubota having an absorptivity almost equal to 100%, since it has been held that discovering an optimum

value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The use of highly absorptive optical element holders is well known in the art for preventing deleterious light scattering and reflection effects, which may adversely affect the optical beam quality.

However the modified Kubota reference does not disclose a first moving control part moving the plurality of quartz substrate parts in the X-axis direction or a second moving control part moving the plurality of quartz substrate parts in the Y-axis direction. Kubota, Melles-Griot and Hanssen et al. are related as polarizer devices. Hanssen et al. teach (e.g. figure 1) a first moving control part (6, displacement drive) for moving the plurality of quartz substrates in the X-axis direction and a second moving control part (8, displacement drive) moving the plurality of quartz substrate parts in the Y-axis direction [col. 2, lines 44-48]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of the modified Kubota reference, as taught by Hanssen et al., in order to easily adjust the positioning of the polarization elements as needed.

Consider claims 13 and 15, the modified Kubota reference discloses (e.g. figure 3) the glass polarizer sections are rectangular.

Consider claim 14, the modified Kubota reference does not specify that the sections 31 or 32 are triangular in shape. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the polarizer section triangular, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215

(CCPA 1980). Here, the result effective variable is the shape of the polarizer. A mesh of triangular shaped sections is more economical to make since it has fewer connecting edges.

Consider claim 17, the modified Kubota reference discloses (e.g. figure 1) that each section 31 comprises a plurality of glass substrates 3a.

Consider claim 18, the modified Kubota reference discloses that the means 2 for directing the light incident on the polarizer collimates the light [see Figs. 1-2, and lines 47-49, col. 2 of Kubota].

Consider claim 19, the modified Kubota reference discloses that the stack of glass substrates 31 partially polarizes the incident light [lines 51-57, col. 2 of Kubota].

Consider claims 20-21, the modified Kubota reference discloses that the plurality of the glass substrate parts is placed at a non-zero angle equal to the Brewster's angle relative to the normal line to the surface of the polarizer [lines 43-49, col. 1 of Kubota].

Consider claim 23, the modified Kubota reference discloses that the degree of partial polarization depends on the number of glass substrates 3a stacked on top of one another [lines 26-34, col. 3 of Kubota].

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JADE CALLAWAY whose telephone number is (571)272-8199. The examiner can normally be reached on Monday to Friday 7:00 am - 4:30 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRC
/Jade R. Callaway/
Examiner, Art Unit 2872

/Arnel C. Lavarias/
Primary Examiner, Art Unit 2872